

Notice of Allowability	Application No.	Applicant(s)
	10/657,123	CHEN ET AL.
	Examiner	Art Unit
	Thai-Ba Trieu	3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-29.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

The preliminary Amendment filed on September 09, 2003 is acknowledged.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

EXAMINER'S AMENDMENT

The application has been amended as follows:

1. In claim 2, line 2, "***in***" before "***the center of the stationary***" has been replaced by -- ***at***--.
2. In claim 16, line 22, "***at lease***" before "***one driving wheel assembly***" has been replaced by -- ***at least*** --.
3. In claim 24, line 7, "***at least a trench***" has been replaced by -- ***at least one trench***--; and line 25, "***at least a trench***" has been replaced by -- ***said at least one trench*** -- (for avoiding of double recitation).

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: The Prior Art fails to disclose or render obvious the claimed combination for improving a rotary engine, which reduces fuel consumption, has good lubrication and smooth rotation over a long lifespan, including:

Regarding claim 1:

at least one swing piston corresponding to the rotational cylinder, placed in the second cavity and swinging within the second cavity for altering the volume of the intake/exhaust space of the second cavity to define the second cavity as a volume-variable intake/exhaust space; and at least one driving member corresponding to the rotational cylinder driving the swing piston to swing within the second cavity of the rotational cylinder to match the position of the rotational cylinder during rotation.

Regarding claims 16 and 24:

Each claim includes all the allowable limitations set forth above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Sanchez Talero et al. (US Patent Number 6,668,767 B1) disclose an internal combustion engine (turbovolante).
- Luzhkov (US Patent Number 6,457,450 B1) discloses a rotary turbine internal combustion engine.
- Lindros (US Patent Number 4,072,132) discloses a rotary internal combustion engine.
- Myers (US Patent Number 3,923,013) discloses a rotary engine.
- Porsch et al. (US Patent Number 3,438,358) discloses a rotary combustion engine.
- Blosser (US Patent Number 3,373,723) discloses an internal combustion engine.

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- Anderson (US Patent Number 1,400,255) discloses a rotary internal combustion motor.
- Williams (Patent Number EP 0 103 985 A2) discloses a rotary engine or compressor.
- Dobrovolny (Patent Number CA 1 155 064 A) discloses a multi-cycle rotary engine.
- Bertras (Patent Number FR 1 255 205) discloses a four-cycle motor.
- Drussant (Patent Number FR 2 744 172 A1) discloses a rotary internal combustion engine having pivotable pistons.
- Lassee (Patent Number FR 2 651 828 A1) discloses a rotary piston type internal combustion engine.
- Scheidecker (Pub. Number DE 42 25 932 A1) discloses a rotary internal combustion engine with a cylindrical bore.
- Woywode (Patent Number DE 1 954 069) discloses a rotary engine.
- Haydt (Patent Number DE 1 576 044) discloses a rotary engine.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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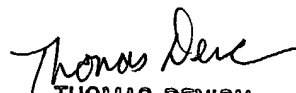
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
March 29, 2004


Thai-Ba Trieu
Patent Examiner
Art Unit 3748


THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700